

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts. $SECTOR~\bm{9} \longrightarrow CHART~INFORMATION$

SECTOR 9

THE WINDWARD ISLANDS AND BARBADOS

Plan.—This sector describes the Windward Islands and the island of Barbados. The descriptive sequence is from N to S, from Martinique to Grenada, and then E to Barbados.

General Remarks

9.1 The Windward Islands are high and mountainous. The Grenadine Islands and Barbados are of moderate elevations. Most of the islands are wooded.

Vessels can pass about 2 miles off either side of these islands, as the banks on which they lie are fairly steep-to.

The E side of Martinique must be given wider berth as the chain of barrier reefs lies up to about 2.75 miles offshore.

Vessels passing among the Grenadines must avoid the shoal heads which lie on the island banks, and also must guard against the current, which is strong in the narrow channels between the islets and islands within that group.

The passages between the major islands are deep. Saint Lucia Channel, lying between Martinique and Saint Lucia, and the channel lying between this latter island and Saint Vincent, are the two more important passages between the Windward Islands, as both are wide, deep, and clear of known dangers.

Winds—Weather.—The trade winds of this area are almost constant throughout the year. Moving in a clockwise direction around the Azores high, they produce throughout the year a predominant wind regime that varies between NE and SE, depending on the location and season. The tendency is for predominantly NE winds in autumn and winter and more E winds in the spring and summer months.

There is in general an increase in the force of these winds from mid-summer through the winter and a falling off in velocity in spring and early summer.

Wind speeds average 8 to 12 miles per hour in most localities. The strongest breeze of the day usually occurs at 1400 hours with a speed two or three times that occurring during the predawn hours.

Squalls, usually accompanied by thunder and lightening, are common and are most frequent in the vicinity of land.

Where the coasts are backed by mountains, cold air in these squalls may rush down the mountainsides and move out over the harbors with sufficient force to damage small boats. These storms usually occur in the summer months and are preceded by sultry weather and high variable winds.

Temperatures are of secondary importance over the region of this sector.

Within the limits of the Windward Islands, air temperatures over coastal areas average about 24° to 27°C in summer.

Temperatures above 35°C seldom occur. The average air temperature over the sea is near that of the sea surface but may range from 17°C to higher values.

The rainfall regime in this area is divided into the dry season from January through April or May and the rainy season covering the remainder of the year. Summer is considered to be the wet season with frequent heavy showers interspersed with periods of fair weather and sunshine.

Winter is the dry season with low amounts of cloud cover and light showers. Over open waters heavy and prolonged showers seldom occur.

In summer, thunderstorms are numerous with the frequency varying considerably from place to place. The number is greatest over the large islands and particularly in mountainous sections.

During the dry winter season, thunderstorm activity is less frequent.

All of the islands covered by this sector N of about 10°N are liable to be affected by hurricanes. The average frequency with which hurricanes affect the various islands of the West Indies increases N.

At Barbados, the expectation is one hurricane in 26 years while in Martinique, the expectation is about one in 5 years.

At Martinique there have been periods of over 30 years without a hurricane; however, occasionally there have been two hurricanes within 1 year. The majority of the hurricanes which affect these islands originate farther E in the Atlantic.

Hurricanes usually occur from June through November, with September having the greatest amount, followed by August and October.

The islands mentioned in this sector are all subject to earthquakes and volcanic eruptions.

Tides—Currents.—The surface currents covered in this sector are governed primarily by the South Equatorial Current.

Current velocity and direction vary only slightly with the seasons and generally set W or NW. The greatest variations in the current pattern result from winds and storms.

Water passing through the channels between Martinique, Saint Vincent, Grenada, and Trinidad is mainly derived from the South Equatorial Current. The current through these passages is normally stronger than that through the more N ones.

In general, vessels approaching Barbados, Saint Vincent, or Grenada from the NE will meet an increase of current strength S of 14°N.

Currents and tidal currents of a local nature are described with the island features.

Martinique

9.2 Martinique (14°40'N., 61°00'W.), a very mountainous island, is easily identified by three outstanding peaks towering above the main mountain chain that traverses it in a NW and SE direction. Montagne Pelee, a conspicuous volcano, stands in the NW part of the island, and can be seen from a distance of 45 miles during clear weather.

Montagne du Vauclin, in the SE part of the island, provides a good mark for vessels approaching from the S or SE. Vessels

bound for ports on the E side of the island will find Presqu'ile de la Caravelle good landfall.

Tides—Currents.—Currents in the vicinity of Martinique are much influenced by the Equatorial Current. Off the N and extremities of the island the set is generally to the W. Off the E coast a N set may attain a velocity of 3 knots during SE winds.

On the W side of the island off Saint Pierre, the set may be either N or S. The stranding of several large and fast vessels, in recent years, has been due to underestimating the strength of the currents.

Caution.—Seaplanes operate along the W and S coasts of Martinique. Vessels should not impede take off and landing of the seaplanes.

West Coast of Martinique

9.3 Cap Saint Martin (14°52'N., 61°13'W.) is a rugged steep-to headland forming the NW extremity of the island.

There are no known dangers off this part of the coast, except Ilet la Perle (Rocher La Perle), a steep-to rock 26.2m high, lying about 1.75 miles SW of Cap Saint Martin.

The village of Le Precheur, identified by a church with two square, yellow towers, stands 2.5 miles S of Ilet la Perle. A light is shown close to the village.

Rade de Saint Pierre (14°45'N., 61°11'W.) extends from the mouth of Riviere des Peres, about 3.75 miles SE of Le Precheur, to the village of Le Carbet. Between these locations, the coast is almost entirely composed of sandy beaches. Several stranded wrecks are found along this coast as shown on the chart

This stretch of coast may be approached without risk, but it should be kept in mind that a vessel may be set either N or S of her course by the current which may run in either direction in this area.

The best anchorage in the area lies 0.3 mile SW of Pointe Sainte-Marthe and 0.2 mile offshore in depths of 38.4 to 40.2m, taking care to avoid a wreck with a depth of 22m, best seen on the chart. The bottom in this part of the roadstead is less steep than elsewhere.

Vessels should not anchor farther out, and should take care not to anchor farther S, where the water is very deep and the bottom rocky and uneven.

Caution.—Caution is advised as numerous wrecks are situated within the 100m curve along this stretch of coast.

9.4 Saint Pierre (14°44'N., 61°11'W.) (World Port Index No. 11540) is a small open port and a first port of entry. The cathedral, a gray building with two towers, is very prominent. On Pointe Sainte Marthe, at the S end of town, stands a prominent white statue on a column.

A tunnel close SW of the above point is conspicuous from the N.

Pilotage.—Pilotage is compulsory. At least 2 hours advance notice is required to be made with Fort de France for a pilot to meet a vessel arriving at Saint Pierre. Pilots are not available at night.

A small jetty, where landing can be effected, is situated about 0.5 mile N of Pointe Saint Marthe. Some white mooring buoys for the use of lighters and barges, are situated about 137m WNW of the head of the jetty.

Le Carbet (14°42'N., 61°11'W.) is a village situated about 2 miles S of Saint Pierre. In it stands a conspicuous church. Morne Vert rises to an elevation of 521.8m about 2 miles ENE of the village. A mast, 100m in height, marked by red obstruction lights, stands near the coast, 3 miles SSE of Le Carbet. An L-shaped jetty extends from the coast out to the 10m depth contour about 0.3 mile S of Le Carbet.

Fond Capot (Fond Belle Fontaine) (14°40'N., 61°10'W.) lies 3 miles SE of Le Carbet. A petroleum pier extends 140m WSW from the coast. A platform, with dolphins nearby, situated on the sides of the pier can accommodate vessels up to 15,000 grt with a draft of 9.1m.

Baie de Fort de France

9.5 Baie de Fort de France (14°34'N., 61°04'W.) is entered between Pointe des Negres and Ilet a Ramiers, about 3.5 miles to the SSE.

The depths in the bay are very irregular and its shores are indented by a number of coves.

Fort de France is built on the N side of the bay on low, level ground. Fort Saint Louis stands on a small promontory, which extends about 0.3 mile S from the SE portion of the main part of town.

The principal deep-water berths lie in Baie des Tourelles, where large vessels can be accommodated.

Moderate size vessels use the basin N of these berths, and small vessels use the berths in Baie du Carenage.

Vessels over 1,600 grt carrying hydrocarbons or dangerous cargo may not close within 1 mile of the coast except for direct access to the pier from Cap Enrage, 1 mile SE.

Fort de France (14'36'N., 61'05'W.)

World Port Index No. 11550

9.6 Fort de France, the capital and principal commercial center on Martinique, is a well protected harbor providing shelter to all classes of vessels.

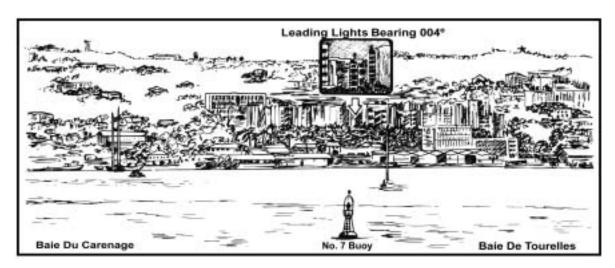
Winds—Weather.—See paragraph 9.1 at the beginning of this sector. Vessels intending to berth should arrange to do so before 0600 hours, or after sundown, to avoid the winds.

Tides—Currents.—See paragraph 9.1 at the beginning of this sector.

Depths—Limitations.—Shoals, banks, and other dangers encumber Baie Fort de France, and may best be seen on the area chart. Two recommended tracks proceed from seaward, and offer access to various portions of the bay.

The N track passes S of Point des Negres, N of **Banc de la Vierge** (14°35′N., 61°05′W.) and offers an approach route to Fort de France, and associated anchorages. The S track passes between **Banc Mitain** (14°35′N., 61°04′W.) and **Banc de Gros Ilet** (14°34′N., 61°05′W.), which serves as an approach channel for Cohe du Lamentin, Mouillage de la Riviere Salee, and Mouillage des Tres Ilets.

The N track, as charted, passes over depths of less than 20m about 0.75 mile SW and 0.5 mile SSW of Fort Saint-Louis. Passe du Carenage, passes between Banc du Fort Saint-Louis, and Banc de la Carriere and is marked by range lights, in alignment bearing 004°. The least charted depth is 10.4m.



Fort de France

The S entrance track into the bay has a least charted depth of 16.4m through Passe de Trois Ilets, where it branches NE and SE.

The NE branch, to Cohe du Lamentin, passes several buoyed shoals and gradually decreases to depths of less than 10m. The track to Mouillage des Trois Ilets gradually shoals to depths of 10m.

The channel to Mouillage de la Riviere Salee passes close aboard unmarked shoals, with depths ranging from 10.6 to 1.5m. Local knowledge is strongly recommended.

Depths—Limitations.—The harbor is divided into two basins; Baie des Tourelles at the E side, and Baie du Carenage at the W side.

The principal berths include Container Quay 250m long, with a depth of 12m alongside; Hydrobase Quay, 340m long, with a depth of 11m alongside; Tourelles Quay, 325m long, with a depth 11m alongside; and Grand Quay,112m long, with a depth of 8m alongside.

A cruise ship terminal, consisting of a 79m long L-headed pier, is located 0.4 mile W of Fort Saint Louis.

Vessels up to 70,000 grt with a maximum draft of 9m can use the E side; vessels up to 150m long with a maximum draft of 8m can use the W side.

Vessels with a single screw and no bow-thrusters are limited to a length of 180m. Vessels with twin screws and bow-thrusters are limited to a length of 250m. There are facilities for cruise, passenger, container, ro-ro, general cargo, and fishing vessels.

At Pointe des Carrieres, close E of the harbor entrance, a Thead pier serves as a combination bulk-petroleum terminal. There is a depth of 17m alongside the berth.

Two dolphins standing W of the pier head and three mooring buoys to the NE enable this berth to accommodate tankers up to 120,000 dwt, with a maximum length of 300m and a maximum draft of 15m. The line of the berth is 071°.

The obligatory approach channel for vessels over 1,000 grt carrying hydrocarbons or dangerous carbons is defined as the direct route closet to 090° from 7 miles off the coast to the waiting zone and tanker anchorage shown on the chart.

Aspect.—The most prominent objects are the hospital buildings close N of the town, and the large buildings of a college 0.2 mile W of the mouth of Riviere Madame. A square clock-tower, about 0.3 mile N of the river mouth is also prominent. Above the town on the slope of the hill about 0.3 mile SSE of the hospital stands a chapel. The basilica of Balata, with a conspicuous dome, stands on the heights above Fort de France, 3.5 miles NNW of Pointe de la Carriere, the E entrance point of Fort de France harbor. The dome is about 27.4m in height, and has an elevation of about 305m.

Pilotage.—Pilotage is compulsory for vessels over 50m in length proceeding to the port, or over 100m in length, proceeding to an anchorage.

Deep draft vessels board the pilot seaward of a line drawn from Cap Enrage, just N of Pointe des Negres, and Cap Salomon (14°31'N., 61°06'W.).

Pilots will also board 0.5 mile S of Pointe des Negres. If pilots are unavailable, vessels should anchor in Mouillage des Flamands.

Vessels should send their ETA and select information through their agents, to the local authorities, at least 24 hours in advance, or 48 hours in advance on national holidays.

The message should include, the vessel's name and flag, tonnage, length, beam, arrival draft, date and time of arrival, the number of crew aboard, and any dangerous or toxic cargo carried.

The local authorities, and the pilot maybe contacted via VHF channels 13 and 16.

Anchorage.—Anchorage in Mouillage des Flamands is available with the spire of the chapel above the town bearing 041°, and the S extremity of Fort Saint-Louis bearing 094°.

Another good berth is with the clock tower bearing 014°, and the S extremity of Fort Saint-Louis bearing 088°.

A small prohibited anchorage area lies off the W side of Fort Saint-Louis, as may best be seen on the chart.

Mouillage de la Dillon farther E offers anchorage, in charted depths of 21 to 27.5m, clear of the shoals.

Cohe du Lamentin offers anchorage in depths of 8m, about 0.25 mile off **Pointe du Lamentin** (14°36′N., 61°01′W.).

Mouillage de la Riviere Salee offers anchorage E of Gros Ilet, in depths of 13m.

Mouillage des Trois Ilets is said to offer better shelter than Mouillage des Flamands or Cohe du Lamentin during the winter, but suffers from excessive heat in summer.

The charted area offers depths of 10.9 to 15.4m, but isolated shoal patches exist here, which may best be seen on the area chart.

Vessels over 1,600 grt carrying hydrocarbons or dangerous cargo must anchor in the tanker anchorage located 2 miles S of Pointe des Negres. An explosive ordnance dumping ground is located SE of the tanker anchorage area as best seen on the chart.

Directions.—Local knowledge is highly recommended for the approach to, and the channels within, Baie de Fort-de-France.

To enter the bay, keep the spire of the chapel, on the slope of the hill above the town bearing more than 027°, which leads W of all dangers.

To enter Mouillage des Flamands from NW, Pointe de Negres should be rounded at a safe distance, keeping N of Banc de la Viergie, and the wreck close SW of it.

A vessel approaching from the S and by day should steer for the chapel mentioned above, bearing 041°.

At night, steer with Fort Saint Louis Light bearing 073°, and well open of Point des Negres Light.

Caution.—A seaplane landing area is situated off the S shore of the bay, and may best be seen on the area chart.

A large prohibited anchorage area containing submarine cables lies across the E portion of Baie de Fort-de-France, and may best be seen on the chart.

9.7 Local magnetic anomalies have been reported in the vicinity of the S extremity of Cap Salomon (14°30'N., 61°06'W.). The cape forms the W end of a rugged promontory. A lighted radio mast stands 2 miles ENE of the cape. Morne Larcher (Morne du Diamant) rises steeply to a peak and lies 4 miles SE of the cape. Three small bights indent the coast between Cap Solomon and a steep-to, rounded, unnamed point, 4 miles SE of Cap Solomon.

Rocher du Diamant (Diamond Rock) (14°27'N., 61°03'W.), a prominent islet with almost vertical sides, 176m high, stands 1.5 miles SE of Morne du Larcher. Banc du Diamant, a small coral shoal with a least depth of 7.9m, lies about 0.75 mile ESE of the islet.

Grande Anse du Diamant, a foul bay, lies about 1 mile N of the rock.

The coast between Grande Anse du Diamant and Pointe Borgnesse, about 7 miles ESE, is boarded by reefs with depths of less than 5.5m which extend up to 0.75 mile offshore.

Temporary anchorage can be taken in the bight which lies SE of the village of Sainte Luce, about 1.75 miles NW of Pointe Borgnesse. Care should be taken to avoid Caye de Sainte Luce, which lies on a bank 0.5 mile S of the village.

9.8 Cul-de-Sac Marin (14°27'N., 60°53'W.) is a small bay entered between Pointe Borgnesse and Pointe du Marin.

The harbor is restricted by reefs, especially near the entrance, but the water is so clear, that the dangers are usually clearly visible.

Le Marin (14°28'N., 60°53'W.) (World Port Index No. 11570), a small town, stands at the head of the bay. Three chimneys W of the town are conspicuous. A light is shown from Pointe Marin.

Pilotage for the bay is compulsory and available from Fort de France with 2 hours notice.

Anchorage can be taken in a depth of 22m, good holding ground, with Pointe Marin bearing 222°, distant about 0.4 mile, and Piton Creve-Coeur, a hill, bearing 105°. Do not attempt to enter or leave Cul-de-Sac Marin at night.

Ilet Cabrits (14°23'N., 60°52'W.), a low islet, lies off the S coast of Martinique and shows a light on its N end. The islet is fringed by a shoal reef. Two rocks lie 0.3 mile W of the islet. The coastal bank in this vicinity is steep-to, its edge being marked by the change in water color.

A stranded wreck is situated close SW of Ilet Cabrits in the approximate position of 14°23'N, 60°53'W.

The reef passes through the dangers off-lying the E coast of Martinique will be described first, thence the anchorages they lead to

Vessels are reminded that pilotage is compulsory for Martinique, and is available from Fort-de France. All of the passes and anchorages require local knowledge.

Table au Diable (14°23'N., 60°52'W.) is a rock on the coastal bank about 0.3 mile E of Ilet Cabrits. A local magnetic anomaly exists in the vicinity.

The coast between Table au Diable and Pointe Macre, about 6 miles NNE, provides no anchorage of any importance. The fringing reefs do not extend more than 0.5 mile offshore and are marked along their outer edges by breakers.

9.9 Pointe du Vauclin (14°34'N., 60°50'W.), about 5.5 miles NNW of Pointe Macre, is the termination of a spur of Montagne du Vauclin. The spur ends in a rugged hill on the point. The town of La Vauclin lies at the head of a bay, S of the point.

Between Pointe Macre and Pointe Caracoli, about 17.5 miles NNW, the coast is extremely irregular and fringed by dangerous off-lying barrier reefs.

Several passages lead through these reefs to sheltered harbors and anchorages, but local knowledge is essential. Vessels should keep at least 3 miles seaward of the barrier reefs along this stretch of coast.

Passe de la Pointe du Vauclin, with a least depth of 8m, is entered between Cayes du Vauclin, about one mile E of Pointe du Vauclin, and Cayes du Sans Souci, close N.

A buoy is moored 1 mile ENE of Pointe du Vauclin and marks the N extremity of Cayes du Vauclin.

A light is exhibited from a tower, situated on a point of land 1.25 miles SSW of Pointe du Vauclin. The white sector of the light leads close N of the buoy moored 1 mile ENE of Pointe du Vauclin.

Passe du Brigot (14°33'N., 60°48'W.) is entered between Cayes du Vauclin and Cayes Pariadis, about 0.4 mile SSE. The pass is obstructed by several dangerous patches and should not be attempted without local knowledge. The extremity of Cayes Pariadis is marked by a buoy.

Passe du Vauclin (14°31'N., 60°48'W.), at the S end of the barrier reef, is entered between Cayes Pariadis and Cayes du Macabou, about 0.5 mile W.

There are several detached shoals in the pass which should not be attempted without local knowledge. A cay 0.75 mile within the entrance to the pass is marked on its S side by a buoy.

Passe de Caye Pinsonnelle (14°36'N., 60°49'W.), entered about 1.5 miles NNE of Pointe du Vauclin, leads between Caye Pinsonnelle and Cayes du Sans-Souci to the S. There is a least charted depth of 7.9m in the fairway.

This passage requires local knowledge.

Passe de Caye Mitan (14°39'N., 60°50'W.), entered between Caye Pinsonnelle and Caye Mitan to the N, leads NE of the reefs which extend N from Ilet Bouchard and Ilet Thiery. This pass is used only in good weather by small vessels with local knowledge. During bad weather vessels use Passe de Caracoli.

9.10 Passe du Loup Garou (14°40'N., 60°51'W.) is entered between Caye Mitan and Loup Garou, about 1.25 miles N. Loup Garou is almost awash and Loup Marseillais, about 0.3 mile to the W, has a least depth of 2.7m.

The N extremity of Ilet des Chardons, in range 272.5° with the spire in Le Robert, leads through the entrance of the pass. Two wrecks, bearing 080° at 1.8 miles from Pointe de la Rosa, along with a 3.1m patch, lie close S of the range line.

There are several heads of the barrier reef, almost awash and dangerous, which lie between Loup Garou and Pointe Caracoli.

Passe de Caracoli (14°45'N., 60°52'W.), the principal channel through the barrier reef, is entered between Pointe Caracoli and the 9m shoal about 0.5 mile SSE. A buoy NW of the shoal marks the passage. The sea breaks heavily on this shoal during strong winds, but in calm seas its position is indicated by the whitish color of the water.

Pointe Caracoli (14°45'N., 60°52'W.), the E extremity of Presqu'ile de la Caravelle, is a prominent rocky bluff. A coral reef extends about 0.3 mile E from the point. A light is shown one mile NNW of the pointe.

Presqu'ile de la Caravelle (14°45′N., 60°55′W.) extends about 5 miles ENE from the general line of the coast. This peninsula is prominent with a ridge extending along its entire length. A TV tower stands on the summit of the ridge. The S coast of the peninsula is indented by a number of bays, fringed with coral reefs on which the sea breaks.

Baie du Francois (14°38'N., 60°53'W.) lies about 2 miles W of Ilet Oscar (Ilet Bouchard). It consists of a fishing port and a commercial facility for handling sugar.

It affords anchorage for vessels of medium draft. Two narrow, difficult channels lead through several reefs which obstruct the entrance leading into this anchorage.

Local knowledge is required.

A number of lighted buoys mark the channel to the anchorage. The best anchorage lies S of Ilet Lavigne in a depth of 12.8m, good holding ground.

During fine weather, a vessel with local knowledge can approach Baie du François through Passe de Caye Mitan.

Pilotage.—Pilotage is compulsory. At least 2 hours notice of arrival is required by the pilot station at Fort-de-France for the provision of a pilot.

9.11 Havre du Robert (14°40'N., 60°54'W.) lies along the N side of a peninsula terminating to the E in Pointe de la Rose.

The approach channel is from the N, using **Passe de Caracoli** (14° 45' N., 60° 52'W.), which is the principal channel through the barrier reef and the only channel recommended in bad weather. The most direct approach from seaward is through **Passe du Loup-Garou** (14°40.3'N., 60°50.6'W.); however, local knowledge is essential.

The irregular shores of the harbor are fringed by coral reefs which extend from 0.25 to 1 mile offshore in places.

A number of buoys mark the dangers in the harbor and can best be seen on the area chart.

Pilotage.—Pilotage for the harbor is compulsory. Pilots come from Fort de France. Two hours notice is required.

Regulations.—Vessels over 1,600 grt carrying hydrocarbons or dangerous cargo are prohibited from entering the harbor.

Anchorage.—The best anchorage for moderate sized vessels is in the NW part of the harbor in depths of 10 to 11m W of Ilet Petite Martinique, which stands 1 mile ENE of Pointe Fort

Vessels loading sugar in the SW part of the harbor anchor in a depth of 9.1m with Pointe Royale in range with the N extremity of Ilet des Chardons in alignment bearing 075°.

Small craft with local knowledge can anchor in depths of 12.8 to 16.5m, good holding ground, in most of the numerous sheltered coves which indent the shores of Havre du Robert.

Caution.—A dangerous wreck, which renders passage unsafe without local knowledge, lies 2 miles E of the approach to the harbor.

9.12 Le Robert (14°41'N., 60°57'W.) (World Port Index No. 11590), a sugar exporting center, stands at the head of Havre du Robert. No berthing facilities are available. All cargo is handled by lighters at the anchorages.

Baie du Galion (14°44'N., 60°55'W.) (World Port Index No. 11600) is bordered on its side by Presqu'ile de la Caravelle and is entered between Pointe Brunel and Pointe Banane, about 1.25 miles SSW.

Pilotage.—Pilotage is compulsory for the bay. Pilots are available from Fort de France with two hours advance notice.

Anchorage.—The best anchorage in Baie du Galion, sheltered from all winds, can be taken with Pointe Brunel bearing 111° and the TV tower on Morne Tartane bearing 013°. Depths range from 8.2 to 9.1m.

Anchorage can also be taken in a depth of 9.1m, about 0.3 mile off the E side of Ilet du Galion.

9.13 Pointe du Diable (14°47'N., 60°53'W.) is the N extremity of Presqu'ile de la Caravelle. A light is shown 0.5 mile SE of the point.

Between Pointe du Diable and Rocher Pain de Sucre, 7.25 miles WNW, the coast is fronted by a coral bank, over which, in places, there are depths of less than 9.1m, but access to the numerous havens is not difficult.

From Rocher Pain de Sucre the coast trends about 9.5 miles WNW to Pointe du Macouba, the N extremity of Martinique. This part of the coast is free of dangers. There is no bay or cove along this stretch of coast which affords shelter from the heavy swell which usually prevails.

Rocher de la Caravelle is a rugged, barren, steep-to rock, located about 1.75 miles NNE of Pointe du Diable. Its pointed summit, covered with guano, gives it the appearance of a vessel

under sail. It is an excellent landmark for vessels making this part of the coast in daylight.

Loup de Sainte Marie (14°48'N., 60°59'W.), a small bank with a least charted depth of 9.6m, lies 1.5 miles ESE of Rocher Pain de Sucre. During NE or ENE winds, a heavy sea sets across this bank and may break at times.

Between this bank and Pointe du Diable, a chain of coral patches with depths of less than 9.1m fouls the approach to Havre de la Trinite. The depths over these patches are very irregular and during fresh winds the sea breaks over some of them. Deep-draft vessels must not cross this chain. In fine weather, the shoal spots are indicated by the color of the water.

9.14 Havre de la Trinite (14°45'N., 60°58'W.) (World Port Index No. 11610) is easy of access and provides shelter from the prevailing winds. The town of La Trinite stands on the SW side of the bay. Alongside berthing is not available to oceangoing vessels. All cargo is handled by lighters at the anchorage.

On approaching the bay, a statue about midway along its E side is conspicuous. The ruins of a windmill stand about 0.5 mile NNE of the statue.

Pilotage.—Pilotage is compulsory. Vessels must give 2 hours advanced notice of their arrival to Fort de France for the services of a pilot. Pilots board vessels 0.75 mile NE of Ilet Saint Aubin. Pilots will not take vessels in at night.

Regulations.—Vessels over 1,600 grt carrying hydrocarbons or dangerous cargo are prohibited from entering the harbor.

Anchorage.—Vessels obtain anchorage in the outer part of the harbor in a depth of 16.5m with the ruins of the windmill bearing 123°, and Pointe Sainte Catherine bearing 210°.

When proceeding to the inner part of the harbor, anchorage can be taken in a depth of 10m with the above windmill bearing 078° and the E side of Ilet Sainte Aubin bearing 349° .

Directions.—The harbor should be approached from NW passing either side of **Loup Sainte Marie** (14°48'N., 60°59'W.) though the E channel is to be preferred as the dangers are buoyed. When approaching this shoal Rocher de la Caravelle should be kept bearing more than 091°, and Pointe Pain de Sucre (Rocher Pain de Sucre) less than 271°.

To pass E, when the ruined tower of Beau Sejour mill bears 154°, open NE of Ilet Saine Aubin, it should be steered for.

To pass W keep Beau Sejour mill, bearing 145°, open SW of the Ilet Sainte Aubin, which will lead about 0.25 mile SW of Loup Sainte Marie.

Whichever channel is used, when Ilet Sainte Marie bears 265°, a vessel will be inside the banks and may steer to pass 0.5 mile E of Ilet Sainte Aubin.

Caution.—A dangerous wreck lies 0.2 mile off the conspicuous statue.

Saint Lucia

9.15 Saint Lucia (13°55'N., 60°58'W.) is mountainous island and for the most part wooded. Its volcanic peaks rise to considerable elevations, and are seldom entirely clear of clouds. Mount Gimie, the highest peak on the island, stands on the S half of the W part of the island. The coast of the island is exposed to the full impact of the Atlantic Ocean and does not offer any secure anchorages.

On the W side of the island there are several safe bays and harbors. Port Castries is the principal harbor.

Winds—Weather.—See paragraph 9.1 at the beginning of this sector. In the vicinity of the island, the trade winds blow with high degree of constancy throughout the year.

The island may be affected by hurricanes, but gales are infrequent.

Tides—Currents.—See paragraph 9.1 at the beginning of this sector. It has been found that within a distance of 5 miles of the island the current usually sets N and NW at a velocity up to 2.5 knots. It was reported that a 1.5 knot current sets NE between Saint Lucia and Barbados.

Martinique—Saint Lucia Channel

9.16 This 17 mile wide channel has general depths of more than 914m, except in its SW part, where depths of less than 183m extend about 4.5 miles N from Saint Lucia. Some isolated patches have been reported.

The prevailing current in the channel is W, tending to the NW. Its velocity is variable. Near the islands it may attain a rate of about 3 knots, but at times it may be almost imperceptible.

Pointe du Cap (14°07'N., 60°57'W.), the N extremity of Saint Lucia, is steep-to but comparatively low.

Several small hills rise in the vicinity. From this point the coast trends about 1.5 miles ESE to Pointe Hardie, the NE extremity of the island, which is sloping but well-defined. Gros Loup, a group of rocks awash, lies about 0.25 mile ESE of Hardie Point.

Foul ground lies in the small bays S of Hardie Point.

This area should be given a wide berth as it is fronted by Fous Islets and by some above-water rocks and sunken dangers. Some of the rocks break with the sea.

Esperance Harbour (14°04'N., 60°55'W.), about 2.25 miles SSE of Hardie Point, is a narrow cove suitable only for small local craft. Between this harbor and Cape Marquis, about 1.5 miles SE, the rocky, steep-to coast is backed by hills of moderate height.

Cape Marquis (14°03'N., 60°54'W.) stands at the extremity of Morne Gaiac, a conspicuous peaked hill. A light is shown on Cape Marquis. The coast between this cape and Port Dennery, about 8.5 miles to the S, is mostly bleak and cliffy.

Trou Halhal (13°57'N., 60°53'W.), entered about 3 miles S of Tortue Point, provides good anchorage to small vessels with local knowledge. An islet lies off the S entrance point and some rocks lie off the entrance point.

Fond d'or Bay (13°56'N., 60°53'W.), about 2 miles S of Trou Halhal, is sometimes used as an anchorage by small local craft, but is considered unsafe because of the heavy swell that enters the bay. The S entrance point of the bay has a reef extending about 0.25 mile NE from it.

Port Dennery (13°55'N., 60°53'W.) lies about 1 mile S of Fond d'Or Bay. This bay also affords anchorage to small local craft. An islet and some rocks off the entrance point provide some shelter to this anchorage. A hospital in the village at the head of the bay is conspicuous.

Chapeau Point (13°51'N., 60°54'W.) lies about 3.5 miles S of Port Dennery. It consists of a double point with a remarkable red patch which shows up well in sunlight.

Port Micoud, about 1.5 miles SSE of Chapeau Point, is a good boat harbor, but local knowledge is necessary because of the narrow entrance channel.

9.17 Savannes Bay (13°46'N., 60°56'W.) lies about 4 miles SSW of Port Micoud. The bay is fouled by reefs and access is difficult. Small vessels with local knowledge frequent the bay. A coral reef fringed by foul ground extends about 0.75 mile offshore for almost 2 miles S of the entrance. Maria Islands, the largest of which lies at the S end of the above reef, shield the entrance to Anse De Sables.

Moule a Chique (13°43'N., 60°57'W.), a promontory, forming the S extremity of Saint Lucia, is a precipitous headland. Cap Moule a Chique, its extremity, rises close to Morne Pavillon, the highest summit of the promontory, close W of which is another peak 220m high, on which stand some ruined buildings. A light is shown on the summit. Ministre Point, is the S extremity of the promontory. A prominent boulder stands on this point.

Fond Blanc (13°42'N., 60°56'W.), about 1 mile SE of Cap Moule a Chique, has a least depth of 11m and should be avoided because shallower depths may exist. There are depths of 21.9 to 25.6m, 3.5 miles S of Cape Moule a Chique. A depth of 155m was reported 6.25 miles SSE of the cape.

Vieux Fort Bay (13°43'N., 60°58'W.) lies on the W side of Moule a Chique and is entered between Mathurin Point and Georgie Point. A light is displayed form Mathurin Point. A wreck and an obstruction lie in the entrance to the bay about 0.5 mile NW of Mathurin Point.

9.18 Vieux Fort (13°44′N., 60°57′W.) (World Port Index No. 11620) stands at the head of the bay close NW of Battery Point.

Depths—Limitations.—The container terminal has a length of 182m; depths at the berth were reported (1991) to be 10.7m.

A single jetty, at the S end of the container terminal, has a 152m long berth on each side; depths were reported (1991) to be 10.7m on the N side and 9.8m on the S side.

A ro-ro berth lies adjacent to the S end of the container terminal. It was reported (1993) that the ro-ro berth is preferred over the berth at the container terminal when there is a NE swell.

Aspect.—Lighted beacons, in range 060°, lead to the berths alongside of this pier.

The white dome of the Custom House, 0.1 mile ENE of the root of the pier, is conspicuous, as is the spire of the church in town.

It was reported that works were in progress within the port. The intent is to dredge the harbor area to a depth of 9.7 to 10.7m. Caution is advised.

Pilotage.—Pilotage is compulsory for vessels over 100 grt. The pilot boards about 1.5 miles off Mathurin Point.

Application for a berth must be submitted by the vessel or its agent 72 hours before ETA. The vessel's ETA, draft, and bunker requirements should be sent 48 hours in advance.

Vessels should not approach within 3.5 miles of the port until radio contact has been established. The port and the pilots can be contacted on VHF channels 6 and 16.

Anchorage.—Anchorage is prohibited in an area extending 0.7 mile WNW of Mathurin Point and 1 mile SW of the town; this area is best seen on the area chart.

Anchorage may be obtained to the NW of the prohibited anchorage area.

9.19 Laborie Bay (13°45'N., 61°00'W.) lies about 2.5 miles NW of Vieux Fort Bay. The entrance to the bay is narrow and at times a swell enters. Anchorage is confined.

A village stands at the head of the bay and there is a small wooden pier with a depth of 2.7m alongside. A reef, on which the sea breaks, lies on the NW side of the bay.

Balembouche Rocks (13°45'N., 61°01'W.), which extend about 0.25 miles offshore, lie 2 miles NW of Laborie Bay. These rocks usually break with any swell. The mouth of the Doree River lies on the NW side of the rocks but is barely visible from seaward.

Anchorage can be taken in depths of 9.1 to 11m, sand, good holding ground, about 0.5 mile W of the river mouth.

Choiseul Bay (13°47'N., 61°04'W.) lies about 1.25 miles NW of the mouth of the Doree River. The bay provides anchorage in a depth of 12.8m abreast the church at the head of the bay. A small pier, with a depth of 4.9m at its head, fronts the village at the head of the bay.

Pitons Bay (13°50'N., 61°05'W.) is entered between Gros Piton Point, the SW extremity of Saint Lucia, and Petit Piton Point, about 0.5 miles NNE.

Two conspicuous peaks back the entrance points. Occasional violent squalls descend from these peaks. The depths off the two points are considerable.

Anse des Pitons is entered close S of Petit Piton Point. Overfalls occur off Gros Piton Point.

9.20 Soufriere Bay (13°51'N., 61°04'W.) is entered about 1.25 miles N of Petit Piton Point. The depths in the bay are too great for anchoring, except for small vessels with local knowledge, who anchor close offshore with their sterns secured to the shore.

The town of Soufriere stands at the head of the bay where there is a concrete jetty 45.7m long with a depth of about 5.5m alongside its N side. The jetty was reported to be in a poor state of repair with many steel piles exposed. It is advisable to approach it only in daylight with caution.

Caution.—Anchorage is prohibited in the coastal area between Anse Jambon (13°52'N., 61°05'W.) and Anse L'Ivrogene (13°48'N., 61°04'W.).

Marigot Harbour, a small inlet entered through a narrow channel, lies 0.75 mile NNE of Pilori Point. Anchorage may be obtained by small craft in depths of from 5.5 to 8.2m clear of the charted submarine cable. The bottom is soft mud, and the holding moderate.

A T-shaped jetty lies on the SE side of the basin. There are several small jetties on each side of the harbor, off the entrance to the basin.

Grand Cul de Sac Bay (13°59'N., 61°01'W.)

World Port Index No. 11625

9.21 Grand Cul-de Sac Bay is entered between Bananes Point, and Ciceron Point, about 0.75 mile NE. Navigation in the bay and its approaches is prohibited except to vessels using the terminal. The oil terminal within the bay, one of the largest in the Caribbean, is able to handle vessels up to 400,000 dwt.

Winds—Weather.—It has been reported that wind velocities are generally lighter at night. About daybreak the wind's speed begins to pick up reaching maximum strength in the late morning to early afternoon, and diminishing around 1600 hours.

Under abnormal conditions, such as a hurricane, vessels will be notified that additional moorings are required. Masters may be instructed to suspend all operations and proceed to sea until normal weather conditions prevail.

Tides—Currents.—Normally, there is a N set off the island's W coast, at rates of 1 to 2.5 knots.

Depths—Limitations.—The approach is clear of dangers and shows a least depth of 27.5m along the approach track.

The port has been reported to handle tankers up to 400,000 dwt, with a maximum draft of 25m. The VLCC berth can accommodate vessels up to 396m loa. A second smaller berth can take tankers up to 50,000 dwt, 228.6m loa and 12.2m draft.

There is a dry cargo dock situated in the SE portion of the bay. This berth can accommodate vessels up to 50,000 dwt, 228m loa and 12.2m draft. Petroleum products can be handled at this berth.

Aspect.—Several additions to the navigational aids marking the bay have been introduced. Vessels are urged to contact the local authorities for the latest information on berths, depths, aids to navigation, regulations, etc. before planning a voyage here

A safe water buoy is be moored about 0.25 mile NNE of Bananes Point. Two sets of range lights lead into the bay. The Cul de Sac range, in line bearing 131°, leads SW of the safe water buoy. The Ciceron Range, in line bearing 105.5°, lead into port passing NNE of Bananes Point and SSW of the safe water buoy.

Pilotage.—Pilotage is compulsory, and is available around the clock. Vessels should pass their ETA and request for pilotage at least 72 hours in advance, confirming 48 and 24 hours prior to arrival. Final confirmation should be passed 3 hours prior to arrival at the pilot boarding position.

The boarding ground is situated about 2.5 miles W of Bananes Point. The pilot and terminal operators may be contacted by VHF on channel 16 call sign,"Hess Saint Lucia."

Regulations.—Navigation within the bay or approaches to it is prohibited, except to vessels using the terminal.

The local authorities, Hess Oil Saint Lucia Limited, should be consulted for specific terminal regulations. Dirty ballast facilities have been reported to be available.

Anchorage.—The local authorities, and the pilot should be consulted for advice on anchorages. Anchoring in the approaches to, or the waters of the port, is prohibited.

Permission to anchor in the bay must be obtained from the Terminal Manager.

Port Castries (14°01'N., 61°00'W.)

World Port Index No. 11630

9.22 Port Castries lies about 0.5 mile NE of La Toc Bay and is entered between the SW end of Vigie Promontory and Tapion Rock, about 0.25 mile SSW. A light is displayed from Tapion Rock. Port Castries is the principal port in Saint Lucia. It can accommodate vessels with drafts of up to 10.6m.

Port Casties has undergone considerable development and modernization in recent years.

Tides—Currents.—Currents off Vigie Point do not exceed 1 knot and are variable in direction.

From S a vessel should keep Vigie Point bearing more than 070°, in order to clear Tapion Shoal and the shore bank extending from the S entrance point, until the range lights are in line.

Range lights, in line bearing 121°, are situated at the head of the harbor. The front light is situated on West Wharf 91m S of North Wharf. The rear light stands 0.5 mile ESE of the front light.

Depths—Limitations.—In addition to the main wharves at Castries there are the following:

- 1. Texaco Oil Terminal is situated at Cocoa Nut Point, 0.5 mile S of Vigie Light, on the SW side of the harbor.
- 2. A submarine oil pipeline is laid from the point across Cocoa Nut Shoal to a mooring buoy nearly 0.1 mile E. Vessels discharging oil moor to this buoy. A second mooring buoy is located 180m SE of the first buoy.
- 3. Two passenger berths are available at Pointe Seraphine. Berth No. 1, the W berth, has an alongside depth of 10.7m, while Berth No. 2 has a depth of 9.8m. A mooring buoy 150m WNW of Berth No. 1 permits docking of vessels up to 260m loa. Two mooring buoys NNE of Berth No. 2 allow vessels of 230m loa to dock there

The following berths front the E and S sides of Castries:

- 1. Berth No. 1 has a length of 137m, with a depth alongside of 5.5 to 6.1m. This berth is for schooners.
- 2. Berths No. 2 and No. 3, used for passenger vessels, have a length of 220m, with a depth alongside of 8.2m.
- 3. Berth No. 4. has a length of 152m, with a depth alongside of 9.8m. Container ships use this berth.
- 4. Berth No. 5 has a length of 159m, a depth alongside of 9.8m, and is for general cargo (ro-ro).
- 5. Berth No. 6. has a depth alongside that is 9.8m with a length of 137m. Banana ships use this berth.

Aspect.—Morne Fortune (13°59.8'N., 60°59.5'W.) rises to 260m about 0.5 mile S of Castries and on it stands Fort Charlotte. Two masts stand, one on each side of a hospital, 0.4 mile W of the summit.

A promontory, on the N side of the entrance, is a wedge-like ridge rising to 90m at its E end. Vigie Point is its W extremity. Vigie Light stands on the summit of the promontory, with a signal station close by.

A conspicuous radio mast, with a height of 120m stands 91m NE of Vigie Light.

Tapion Rock is located 0.45 mile S of Vigie Point, 14m high and reddish in color, is reported to be difficult to distinguish from seaward. A light stands on the summit of Tapion Rock.

A prominent hotel stands on the S shore of La Toc Ba,y lying immediately S of Tapion Rock.

Pilotage.—Pilotage is compulsory for merchant vessels over 100 grt. Pilots are available on a 24 hour basis.

Vessels should send their ETA, draft, and request for pilots at least 48 hours in advance of arrival, and should not approach within 3.5 miles of the port until radio contact has been established. The pilot boards about 1.5 mile off the harbor entrance on the leading line of the channel.

Vessels are not permitted to approach within 100m of any of the berths until pratique has been granted by the pilot. Other port officials board after a vessel has berthed.

Both the pilots and the port authorities, call sign "Castries Lighthouse" may be contacted on 2182 kHz and VHF channels 6, 12, 14, or 16.

Anchorage.—Vessels can anchor off the harbor entrance as convenient keeping clear of submarine cables leading to La Toc Bay, S of Tapion Rock. The holding ground SW of Vigie Point is reported to be good.

Inside the harbor a vessel may anchor according to draft, keeping clear of the fairway and of a submarine cable, close within the harbor entrance. The holding ground within the harbor is good, but there is little swinging room. A charted anchorage is found at the head of the harbor.

Directions.—Castries Harbor is entered about 0.35 mile SW of Vigie Point between the shore banks extending seaward from this point and from Tapion Rock. There is a navigable width of 0.1 mile between the 10m curves on each side of the channel.

The channel through the harbor, in which depths from 12.2 to 15.5m were found by survey, leads ESE from the entrance for a distance of nearly 1 mile to the wharves at Castries. It is indicated by range lights. The front light is easy to see, but the rear light is visible only in the channel.

A vessel approaching from N should steer SW, passing at least 0.2 mile from Vigie Point in order to avoid the shoal bank extending from that point. When Tapion Rock bears 154°, it should be steered for on that bearing until the fairway range lights come into line.

Caution.—Shallow rocky flats and foul ground extend a short distance from most of the points in Port Castries.

The water is usually muddy and the shallows are not easily distinguished.

9.23 Choc Bay (14°03'N., 61°00'W.) is entered between Vigie Point and Labrellotte Point. The bay is fouled by numerous dangers and depths of less than 5.5m extend from 0.3 to 0.75 mile offshore.

A dangerous reef, which breaks, lies in the N part of the bay. A river discharges into the middle of the bay. Rat Island (Rat Islet), with a hospital on it, stands about 0.7 mile WSW of the mouth of the above river.

A prohibited anchorage area encompassing the submarine cables best seen on the chart, about 1 mile wide, extends 2.7 miles NNW and then 2.3 miles NW from the shore of Choc Bay, passing W of Rat Islet. Anchorage is available W of Rat Island in 11 to 15m.

Rodney Bay (Gros Inlet Bay) (14°05'N., 60°58'W.) is entered between Fourreur Islet and Pigeon Island. A light is shown from Fourreur Island. The village of Gros Islet is

located in the NE part of the bay. The entrance to a large yacht harbor lies S of the village and two hotels stand farther S.

The entrance to the harbor has a jetty on both sides. The shape of the N jetty head is worthy of note as it lies very close to the alignment 098° of the leading lights for the entrance channel. There is a light at the head of each jetty. In 1993, it has been reported that confusion can occur between the red light on the S jetty and the red brake lights of cars in a parking lot nearby.

The harbor is well-equipped for small craft. The Rodney Bay Marina has 232 side-tie berths, with depths from 10 to 11m between the side-ties.

General depths inside the harbor are reported to be in excess of 2.5m and craft with a keel depth of 3m are reported to have been accommodated.

Anchorage is available in the N part of the bay with Gros Islet church bearing 101° and the W extremity of Pidgeon Island bearing 355°.

Burgot Rocks (14°06'N., 60°58'W.), two in number, and about 11.3m high, stands about 0.25 mile off Pigeon Island. East of these rocks the depths are shoal. Tide rips occur in the vicinity of these rocks.

Caution.—Caution should be exercised as shoaling has taken place due to the reclamation work between Pigeon Island and the mainland. Depths may be less than those charted.

Saint Vincent

9.24 Saint Vincent (13°15'N., 61°12"W.), situated with Porter Point, its N extremity, about 23 miles SSW of the S extremity of Saint Lucia, lies almost on the same parallels of latitude as Barbados and about 87 miles W of that island.

The island is mountainous and wooded. The volcano Soufriere rises abruptly from the N end of the W coast of the island. The volcano erupted many years ago.

The coasts of the island are bold and rocky, but in many places there are sandy bays, off which small craft obtain temporary anchorage.

The largest town is Kingstown and is fronted by the principal commercial harbor.

Tides—Currents.—The current sets to the N off Saint Vincent and at a distance of 5 miles or more from the coast the tidal currents are negligible.

Off the SW side of the island, the NW current attains a rate from 1.5 to 2.2 knots. At spring tides, off the same coast, the SSE current attains a rate of 0.7 knot to 2.0 knots. The currents are subject to great irregularities due to wind and current.

The current sweeps around Kingstown Bay and at times attains a rate of almost 2 knots.

9.25 Porter Point, the N extremity of the island of Saint Vincent, is salient, cliffy, and conspicuous. The point has been reported to be a good radar target at distances up to 16 miles.

A group of prominent buildings stand about 0.3 mile W of Porter Point. Owia Bay, about 1 mile ESE of Porter Point, is entered on the W side of Owia promontory.

Owia Light is exhibited, at an elevation of 36m, from a metal framework tower, 6m in height on the promontory.

The bay affords temporary anchorage to small craft during good weather.

Cow and Calves (13°22'N., 61°09'W.) are a chain of rocks, the highest having an elevation of 13.7m, located close off the NE side of the above promontory.

Turema Point (13°20'N., 61°08'W.) lies about 3 miles SSE of Cow and Calves. The coast between this point and Black Point, about 4 miles S, is bordered by boulders on which the sea breaks heavily.

Georgetown, a village about 1 mile N of Black Point, can be identified by its church tower of dark stone.

Yambu Head (13°09'N., 61°09'W.), a conspicuous headland, lies about 6.75 miles SSW of Black Point. Milligan Cay, with a rock close E of it, lies about 2.5 miles SW of Yambu Head.

A lighted radio mast stands about 1.75 miles WNW of Yambu Head.

Milligan Cay Light is exhibited from a metal framework tower, 6m in height, on the SE extremity of Saint Vincent.

Calliaqua Bay (13°07'N., 61°12'W.), located on the SW side of Saint Vincent, can be identified by Duvernette Islet and Young Island on its NE side. A village stands at the head of the bay. The islet has the ruins of fort on its summit and a black, sandy beach.

There are depths of 21.3m in the middle of the bay, shoaling rapidly close to the surrounding shore. The bay provides good anchorage for small craft. The bight N of Young Island offers anchorage to small vessels.

A light is shown on Duvernette Islet. A submarine cable is laid across the channel between Young Island and the mainland.

Caution.—Caution must be used when entering as both sides of the bay entrance are foul. Allowance should be made for the strong W current.

9.26 Cane Garden Point (13°08'N., 61°14'W.), which slopes gently to the sea, is the W extremity of a promontory which lies 1.25 miles NNW of Young Island and separates Greathead Bay from Kingstown Bay. Strong tide rips occur off Cane Garden Point.

Kingstown Bay (13°09'N., 61°15'W.) is entered between Cane Garden Point and Old Woman Point, about 1.25 miles to the NW. The depths in it are considerable throughout, and 0.25 mile off the town of Kingstown at its head, there are depths from 33 to 36.6m. The bay affords good anchorages.

Kingstown (13°09'N., 61°14'W.)

World Port Index No. 11640

9.27 Kingstown is the capital of Saint Vincent and a first port of entry. Alongside berthing facilities are available for large vessels abreast the town. There are depths of 88 to 93m at the entrance.

Depths—Limitations.—Deep Water wharf, an open pile wharf, lies parallel to the shore about 0.3 mile SE of the cathedral.

The wharf has depths of 9.1 to 11m alongside. The outer face of the wharf can accommodate two vessels, one drawing up to 9.1m and the other drawing up to 8.2m.

Small craft lie along the inner side of the wharf. A 8.4m patch lies about 91m S of the N end of the wharf and care should be taken to avoid it.

Boats may land at a wooden jetty, 11.5m long, inside the S end of the wharf. There is a depth of 2.3m at its head shoaling to 1.8m inshore.

A pier, about 91m long, lies SE of the end of the wharf.

A bulk commodities berth is located close N of Lowmans Ba,y 1.5 miles NW of Kingstown.. The pier accepts vessels with a maximum draft of 11m.

Arnos Vale Oil terminal, with three offshore berths, lies on the E side of Greathead Bay. The facility consists of three mooring buoys with pipelines connected to the shore. The terminal accepts ships with a maximum draft of 7.1m.

Aspect.—Fort Charlotte, with its conspicuous buildings and flagstaff, is situated on the high ground N of Old Woman Point. A light is displayed from Fort Charlotte. The harbor signal station is also located here.

The cathedral, with its square white tower near the NW part of town, is also conspicuous. The clock on the tower is lighted at night. A prominent white house with a red roof stands about 0.25 mile S of the town.

The Police Station, just N of the wharf, has a conspicuous red cupola. A dangerous wreck and a stranded wreck are reported in approximate position 13°09'N, 61°14'W.

Pilotage.—Pilotage is compulsory for vessels over 150 nrt proceeding alongside the deep water wharf, the berth in Greathead Bay, and the Arnos Vale Oil Terminal. Pilots require 24 hours advanced notice of ETA. Pilots board vessels at the entrance to the bay. Vessels should contact the Signal Station at Fort Charlotte on VHF channel 16 for in harbor moves.

The pilots and port authorities, call sign "ZQS," may be contacted on 2182 kHz or VHF channels 11 and 16.

Anchorage.—Vessels can obtain anchorage in a depth of 36.6m, sand, in the middle of the bay, about 0.3 mile offshore. The holding ground is good.

During the middle of the day, the wind frequently blows down the valleys with great violence. Vessels at anchor should be prepared to pay out a good scope of chain. At night the breeze is light.

9.28 Buccament Bay (13°11'N., 61°17'W.) lies about 3 miles NW of Kingstown. A stream discharges into the head of the bay. There are general depths of 47.5m about 91m offshore. Small vessels with local knowledge can anchor in a depth of 31m, close of the mouth of the stream.

Camden Park Bay and Lowmans Bay, separated by a rocky outcrop, form York Bay, which is entered 1.5 miles SE of Buccament Bay. There are general depths of 29.3m in the middle of the bay, rising steeply close offshore. The seabed and the beach consist of black volcanic sand.

Barrouallie Bay (13°14'N., 61°17'W.) lies about 2.75 miles N of Buccament Bay. Anchorage in the bay is only suitable for small vessels with local knowledge. The bottom on the NW side of the bay is foul. A stream discharges into the head of the bay and close to it is a small pier.

Bottle and Glass Rocks (13°14'N., 61°18'W.) lie about 0.25 mile offshore and on the N side of Barrouallie Bay. A conspicuous pylon stands 0.25 mile NE of the rocks.

The coast between Bottle and Glass Rocks and Chateaubelair Bay, about 4 miles NE, is indented by four small bays.

Anchorage can be taken in these bays by small craft with local knowledge.

Chateaubelair Bay (13°18'N., 61°15'W.) is entered between Chateaubelair Islet and Richmond Point, about 1 mile NE. Small vessels can anchor in depths of 23.8 to 25.6m, about 0.2 mile NE of a concrete pier at the head of the bay.

Wallibu, a small village, stands about 1.5 miles NE of Chateaubelair Islet. Exposed anchorage can be taken off the village in a depth 31m.

Morne Ronde Point (13°20'N., 61°14'W.), about 1 mile N of Wallibu, appears as a hummock from the S. A village stands close S of the point. Larikai Point is fronted by a chain of rocks extending about 137m from it, and lies about 1 mile NNE of Morne Ronde Point. De Volet Point lies about 1.75 miles NNE of Larikai Point and is prominent.

Cape Rolle (13°23'N., 61°12'W.), bold and prominent, lies about 1 mile ENE of De Volet Point. Booby Rock, lies close inshore, about 0.75 mile ENE of Cape Rolle.

The coast between Cape Rolle and Porter Point, about 1.25 miles E, is indented by some small bays which are exposed and of no commercial value.

Grenadine Islands

9.29 Grenadine Islands (12°45'N., 61°17'W.), a chain of 100 islands, islets, and rocks, extend for a distance of 52 miles between Saint Vincent and Grenada.

The islands are of moderate elevations, with none exceeding 335m. There are several navigable channels between the islands.

The islands lie on a bank which has general depths of 18.3 to 45.7m. A deep channel, with a least width of 1.5 miles, lies between the N end of this bank and the S end of the bank which extends S from Saint Vincent.

Tides—Currents.—The current almost always sets W in the passage between the Grenadine Islands and Saint Vincent, but in depths of less than 128m on the banks, the E tidal current frequently prevails. When the E tidal current off the NW coast of Bequia sets against a strong trade wind, a heavy confused sea is raised in the passage, as well as off the NW extremity of Canouan Island.

At times the W tidal current, combining with the ocean current, will run through the narrow channels at a rate of about 4 knots. The E current seldom attains a rate of 2 knots, and often it is not more than 0.5 knot.

Grenadine Islands—North Group

9.30 Bequia (13°00'N., 61°15'W.), the most important and largest of the islands in the N group, lies about 4.5 miles S of Saint Vincent. Bullet, a high rock, lies close E of the N extremity of the island. Spring Bay, small and foul, lies about 1.5 miles SW of Bullet.

An area under reclamation (1993) lies about 3 miles E of West Cav.

Friendship Bay (12°59'N., 61°14'W.), a small bight on the S side of Bequia, provides shelter to small craft. A cay is

connected with the main island by a reef which forms the W side of the bay. A group of islets lie up to 2.75 miles off the S side of Bequia. The area of these islets provides an open but safe anchorage. The best anchorages are noted on the area chart.

9.31 Admiralty Bay (13°00'N., 61°15'W.) (World Port Index No. 11650), located on the W side of Bequia, is the principal anchorage of the island. The town of Port Elizabeth stands at the head of the bay. A conspicuous radio mast stands SSE of the town.

Depths—Limitations.—A concrete jetty projects 45m from the town. Its head is 7.9m wide, and has a depth of 7m alongside. There are plans to extend this pier. A wooden pier, 91m S of the jetty is 33.5m long and has a depth of 5m at its head. A light is shown from the jetty.

Anchorage.—Anchorage can be taken in the inner part of the bay in depths of 5.5 to 18.3m protected from all except SW winds.

Only small vessels should attempt to anchor in the inner part of the bay, where the bottom is sand with patches of coral and mud.

Good anchorage can be found in the outer part of the bay, between 0.3 and 0.5 mile NNE of Belle point, in depths from 20.1 to 29.3m. The bottom is mostly sand, coral and shell. Small craft can anchor off any of the inner bay beaches.

The recommended anchorage for yachts is near the concrete jetty, where the holding is good.

Off the S of Bequia, anchorage maybe had in the large space between the island, and the islands extending SE from it. Local knowledge is recommended.

9.32 Baliceaux Island (12°57'N., 61°09'W.) and Battowia Island are connected by a shoal with a least depth of 3.7m.

Church Cay, bordered by a narrow channel on each side, lies on the S side of this shoal. Only small craft with local knowledge can use these channels.

Battowia Island is high and cliffy. Bullet, a tall rock, lies close off the N end of the island. Another rock, which breaks, lies about 0.15 mile NW of Bullet.

A light is shown from the island's summit. All Awash Island, 68m high, lies about 2.5 miles SSW of Battowia Island.

Pillories (12°55'N., 61°11'W.) consists of three islets, which lie about 2.5 miles SW of the extremity of Baliceaux Island, with Pillory Rocks charted about 0.5 mile NE of them. A rock awash lies about 0.5 mile SE of the E islet. Single Rock, stands about 0.2 mile S of the W islet.

Mustique (12°52'N., 61°11'W.) lies about 3 miles SSW of Baliceaux Island. A shallow and foul bay indents the N side of the island.

Double Rock, 9.8m high, lies about 0.25 mile NNE of the NW extremity of Mustique.

A conspicuous stranded wreck lies on a shoal with a least depth of 3m, 0.12 mile NNE of Double Rock. An isolated rock, with a least depth of 3.7m, lies over 91m N of Double Rock. A coral reef extends 91m SW from Double Rock.

Between the reef and the NW extremity of Mustique there is a channel, 0.15 mile wide with depths of 3 to 7m in it.

A channel between the conspicuous wreck and Single Rock has depths in it from 12.2 to 24.1m.

The channels between Mustique and the Pillories require local knowledge due to the strong and unpredictable currents in the channel.

The E side of the island is bordered by a reef which extends up to 0.25 mile offshore. Reefs fringe the W side of the island in many places. The reef off the SW point of the island extended almost 0.3 mile offshore and was reported to be still extending.

Montezuma Shoal, lies about 0.4 mile off the W side of the island. This shoal is extremely dangerous because it does not break in a smooth sea and cannot be seen in time to avoid it. A lighted beacon stands on the SW side of the shoal.

Large vessels can find anchorage in depths of 20.1 to 27.1m, about 1 mile WSW of Montezuma Shoal, good holding ground. Grand Bay, on the W side of the island, provides anchorage in depths of 21.9m. A pier, 36m in length, with a depth of 3m alongside, lies on the N side of the bay.

Petit Mustique (12°50'N., 61°12'W.) lies 1.25 miles S of Mustique Island. A rock, just above water, lies about 0.1 mile off the S extremity of the islet.

Savan Island, is the largest and NE of a small group of islets and rocks lying about 1.75 miles SSW of Petit Mustique.

The group are more or less fringed with reefs. Small vessels can take temporary anchorage NW of Savan Island but there is always a swell. Petite Canouan lies 4 miles WSW of Savan Island. A light is shown on Petite Canouan.

Grenadine Islands—Middle Group

9.33 Canouan Island (12°43'N., 61°19'W.) lies about 3.75 miles SSW of Petite Canouan. The island is of volcanic origin and presents a green appearance, the high land being covered with dense scrub and cacti.

Mahault Bay forms the N side of the island and Charlestown Bay the W side of the island.

Dove Cay, 38.1m high, lies off the SSW part of the island. Anchorage can be taken W of the cay.

Charlestown Bay (12°43′N., 61°20′W.), which indents the W side of the island, provides anchorage for large vessels off the entrance with the NW extremity of the island bearing 015° and the SW extremity bearing 228°, depths about 31.1m. Small vessels can anchor closer inshore, but inside the 27.4m curve the depths decrease rapidly.

Retreat Pier is a wooden structure 61m in length, with a depth of 0.9m alongside its head. A second pier 200m in length is situated 0.2 mile farther E. Lights are exhibited from both pier heads.

A prominent white-topped rock, 0.65 mile NE of Bachelor's Hall Point, stands 91m offshore and is covered with guano. It is a useful mark. Another useful mark is the obstruction lights on the peaks of Taffia Hill and Glassy Hill and on the point 0.1 mile N of Glassy Hill. The navigational aids in the bay should not be relied upon.

Mayreau Island (12°38'N., 61°23'W.) lies about 4 miles SW of the SW extremity of Canouan Island. A number of reefs and cays extend about 3.75 miles E and ESE from the island.

A lighted buoy is moored about 0.5 mile N of the island. Vessels can obtain anchorage in depths of 11 to 12.8m off the SW side of the island.

9.34 Catholic Island (12°40'N., 61°24'W.) lies about 1 mile NW of Mayreau Island. A light is shown on the islet.

Dry Shingle, a small sand cay, lies about 0.25 mile ESE of Catholic Islet and are connected by a shallow bank.

A lighted buoy is moored off the SE side of this bank about 0.25 mile ESE of Dry Shingle.

Between Dry Shingle and Mayreau Island there is channel, clear of dangers, with depths of 9.1m in the fairway. This channel is used by vessels of moderate draft coming from the N and bound for the anchorage off the SW side of Mayreau Island. A light is exhibited from a metal framework tower, 3m in height on the summit of Catholic Islet.

Sail Rock is located about 3.5 miles E of World's End Reef.

World's End Reef (12°37'N., 61°20'W.), which dries in places, is the outermost danger of those extending ESE from Mayreau Island. The current sets strongly toward this reef. Egg Reef lies W of the above reef and is separated from it by a parrow channel

Horse Shoe Reef lies about 0.25 mile NNW of Egg Reef, and lies within the semicircle enclosing Tobago Cays.

Several other reefs, separated by narrow channels, lie between Horse Shoe Reef and Mayreau Island.

Anchorage.—Good anchorage can be taken in depths of 11 to 14.6m, off the W side of N Tobago Cay. The NW approach to this anchorage is about 0.5 mile wide between the fringing reefs. A pair of range beacons bearing 129° when in line lead to the anchorage.

9.35 Union Island (12°36'N., 61°26'W.) lies about 2 miles SW of Mayreau Island. The island is a dependency of Saint Vincent. The island is of volcanic origin and is covered with coarse grass and scrub. The coast of the island is fringed with reefs which in places extends as much as 0.75 mile offshore.

The channels leading to the anchorages and settlements of this island require local knowledge.

Red Islet (12°36'N., 61°20'W.) lies off the NE coast of Union Island. The island can be identified by the red rock showing through patches of scrub. Palm Island, lies about 1 mile off the SE part of Union Island, and is surrounded by foul ground. A 0.25 mile wide channel, with depths of 7.3 to 25m, leads between Prune Island and Union Island.

A number of lighted buoys mark dangers in this area, some of which may have been removed. Caution is advised.

Frigate Islet (12°35'N., 61°26'W.) is joined to the SE extremity of Union Island by a chain of reefs. A bay on the S side of Union Island is filled with shallow flats. The village of Ashton stands at the head of this bay.

Vessels can take temporary anchorage in depths of 8.5 to 14.6m, SW of Frigate Islet. Prune Island, about 60m high, lies about 1 mile SE of Union Island.

Foul ground extends up to 0.4 mile off this island, except the W side.

9.36 Chatham Bay (12°36'N., 61°27'W.), the large bight on the W side of Union Island, provides anchorage for large vessels in a depth of 31.1m, sand. Care should be taken to avoid a shoal which lies 0.25 mile offshore.

Clifton Harbour (12°36'N., 61°25'W.) lies in a bay on the SE side of Union Island. It is protected on its E side by Thompson Reef. A large house stands on the S entrance point.

Copper Reef, on the SW extremity of which is a ruined concrete structure, lies in the middle of the harbor.

A concrete jetty, 48.8m long, lies near the Customhouse in the NW corner of the harbor and has a depth of 4.9m at its head.

Range lights are exhibited. The front light is shown from concrete tower on the head of the concrete jetty while the rear light is shown at an elevation of 38m from a concrete beacon on a hillside NW of the harbor. In line the lights bear 327.5° and lead clear of the reefs each side of the W entrance to the harbor.

The N part of the harbor affords secure anchorage to small vessels with local knowledge in depths of 4.9 to 12.2m, sand.

Grenadine Islands—South Group

9.37 Carriacou Island (12°29'N., 61°28'W.), the largest of the Grenadine Islands, lies 3.5 miles S of Union Island.

The E side of the island is fringed by detached reefs which extend up to 1.5 miles offshore. Watering Bay and Grand Bay, two small bights on the E side of the island, provide anchorage to small vessels with local knowledge.

Little Martinique, with Little Saint Vincent, lies about 2.25 miles E of the N part of Carriacou Island. A small pier with shallow depths stands on the NW side of Little Martinique. Two Cow Cays lie about 1 mile W and 0.75 mile NW of Little Saint Vincent Island.

Fota (12°31'N., 61°24'W.), a rock, and Little Tobago, an islet, lie off the W side of Little Martinique. Sheltered anchorage can be taken, in depths of 9.1 to 18.3m, between Little Martinique and Two Cow Cays. The shoal bank NW of Fota should be avoided.

Tides—Currents.—During May and June, the ocean current in the channels between Carriacou and Little Martinique has been found to set N and W at a rate of 0.5 to 1.5 knots. The NW tidal current combined with the ocean current attains a rate of 3 knots at times.

9.38 Kendeace Point (12°27'N., 61°26'W.), the SE extremity of the island, has a 9.1m patch about 0.75 mile E of it. A lighted radio mast stands about 1.75 miles NNW of Kendeace Point.

The coast between this point and South West Point, about 4.25 miles WSW, is indented by several small foul bays.

Saline Islet (12°26'N., 61°28'W.) lies about 1.5 miles E of South West Point. A detached reef about 1.5 miles long lies close N of this islet. The narrow channel between this reef and Saline Islet provides shelter to small craft with local knowledge.

Frigate Islet lies about 0.75 mile S of Saline Islet. Small craft can anchor off the W side of Frigate Islet about 0.3 mile NW of its SW extremity.

Large Islet (12°24'N., 61°30'W.) lies about 0.4 mile SW of Frigate Islet. An above-water rock lies 0.1 mile off the W end of Large Islet and a 5.5m patch lies almost 0.3 mile S of it. Small vessels can anchor in a depth of 9.1m about 0.1 mile offshore in the bay on the NW side of Large Islet.

Bonaparte Rocks (12°24'N., 61°30'W.) lie up to 1 mile SW of the S end of Large Islet. The tidal currents attain a

considerable velocity in the vicinity of Bonaparte Rocks and their E side should be given a wide berth.

Tyrrel Bay (12°27'N., 61°29'W.) indents the coast on the N side of the peninsula which terminates in South West Point.

Vessels can anchor, in depths of 9.1 to 27.4m, in the N outer part of the bay.

Pilotage.—Pilotage is compulsory for vessels of more than 200 grt. Pilots may be requested in advance from Grenada Ports Authority.

The shore between Cistern Point and Rapid Point, the end of Carriacou Island, is indented by three bays. Depths of less than 11m lie up to 0.75 mile off this side of the island. Sister Rocks lie about 0.75 mile W of Cistern Point.

Foul ground extends about 0.1 mile SE from these rocks. The channel between these rocks and Cistern Point is deep and clear. It has been reported (1993) that a wreck, with less than 1m of water, lies close S of the foul ground.

9.39 Hillsborough Bay (12°29'N., 61°28'W.) is entered between Jack a Dan and Sandy Islet. A light is exhibited from Sandy Islet. A village stands at the head of the bay.

A jetty, with a depth of 2.4m alongside its head, extends from the shore abreast the village. A church and tower stand at the SW end of the village.

Anchorage.—Anchorage can be taken as charted S of Jack a Dan in depths of about 25.6m.

Les Tantes (12°19'N., 61°33'W.) consists of three islets and lies about 5 miles SW of Bonaparte Rocks. An above-water rock lies about 0.2 mile NE of the islet. Anchorage can be taken off the W side of the largest islet. Diamond Islet lies about 1.5 miles WNW of Les Tantes.

Ronde Island (12°18'N., 61°35'W.) lies about 0.5 mile S of Diamond Islet. Reefs fringe the shores in places and extend across the bays on its N and E sides. Small vessels may obtain anchorage off the W side of the island, N of a shoal, which extends N from the S part of the W side of the island. The channel between Ronde Island and Les Tantes is deep and clear. The N current through this channel attains rate of 3 knots at times.

Isle de Caille (12°17'N., 61°35'W.) lies close S of the extremity of Ronde Island. The narrow channel between the two islands has depths of 3.7 to 9.1m. During strong winds the sea breaks in this channel. Small vessels may obtain anchorage under the lee of Isle de Caille.

The Sisters (12°18'N., 61°36'W.), two groups of islets, lie W of the W extremity of Ronda Island. Less than charted depths have been reported W and SW of The Sisters. There is passage between the two groups, and between the group and Ronde Island. London Bridge, a perforated rock, lies about 1.5 miles SSW of Isle de Caille. Some above-water rocks lie up to 0.2 mile SW of London Bridge on a bank with depths of less than 18 3 m

Caution.—A submerged volcano lies about 1.75 miles W of The Sisters.

Grenada

9.40 Grenada (12°07'N., 61°40'W.) is located with Bedford Point, its NE extremity, about 3.75 miles SSW of Isle

de Caille. The island is mountainous and its coastline rugged. The S side of the island is indented by a number of bays.

David Point (12°14'N., 61°40'W.) is the N extremity of the island. The coast between this point and Sauteurs Bay, about 1.25 miles SE, is bordered by shoals which extend up to 0.2 mile offshore. A village stands on the E side of the bay. Irvins Bay, close E of Sauteurs Bay, provides anchorage in depths of 11 to 13m, about 0.3 mile N of the E entrance point of the bay. This anchorage can be uncomfortable at times due to rolling. Fresh winds blow occasionally from the NNE but with sufficient chain out there is little to fear because the holding ground is good.

The coastline between Irvins Bay and Bedford Point is bordered by shoals which extend up to 0.5 mile offshore.

Sugarloaf Islet (Levera Islet) lies about 0.25 mile N of Bedford Point. Green Islet and Sandy Islet stand 0.5 mile ESE and 1 mile E, respectively, of Bedford Point. Anchorage can be taken W of these islets by small vessels. Bird Islet lies about 2 miles ESE of Sandy Islet.

The coast between Bedford Point and Telescope Point, a small promontory about 5.75 miles to the S, is fringed by a shoal which extends up to 0.75 mile offshore. This stretch of coast is exposed to the full force of the trade winds. During strong winds, the sea breaks in depths of less than 9.1m as it generally does along the entire E and S coasts of the island. Anthony Rock, stands about 1 mile offshore and about 2.75 miles S of Sandy Islet. Telescope Rock lies 0.5 mile E of Telescope Point.

Caution.—Reports have indicated that less water may be encountered on the banks S of Grenada. Deep-draft vessels, particularly those drawing more than 12.2m should remain clear of the 183m curve where possible.

9.41 Grenville Bay (12°07'N., 61°37'W.) and Saint Andrew Bay, separated by Marquis Islet, are foul and should not be entered without local knowledge. During strong NE winds, the sea breaks right across the entrance to Grenville Bay. Grenville lies at the head of Grenville Bay.

The town pier has a depth of 3m alongside its head.

Vessels drawing more than 3m can find sheltered anchorage within the outer reefs; those drawing up to 3m can lie in smooth water within the inner reefs. Two white beacons, in range 291°, lead between the outer reefs in the approach to Grenville Bay.

Pilotage.—Pilotage is compulsory for vessels of over 150 grt. Pilots can be requested in advance from Grenada Ports Authority.

Caution.—Caution is advised, as less water has been reported in the channels of Grenville Bay.

9.42 From Great Bacolet Point to Saint Davids Point, 5 miles SW, the coast is indented by several small bays, which are used by local craft. The intervening coast is fringed by reefs and shoals which extend up to 0.5 mile offshore.

Saint David's Harbour (12°02'N., 61°41'W.), a narrow inlet, is entered between Saint David's Point and the reef extending 0.25 mile from Middle Point, about 0.25 mile NW. Small vessels with local knowledge can enter the inlet.

Westerhall Bay (12°01'N., 61°42'W.) lies about 1.5 miles E of Saint David's Point. The bay provides good anchorage in a depth of 7.3m to small craft with local knowledge.

Caliviny Harbour lies at the head of the inlet between Westerhall Point and Point of Fort Jeudy, about 1 mile SW. The harbor should be approached on a NW course, passing midway between the shoals off the side of Westerhall Point and the fringing reef on the side of Point of Fort Jeudy. Small vessels can anchor in depths of 6.4 to 8.2m in the E side of the harbor.

Port Egmont (12°00'N., 61°43'W.) is entered between Point of Fort Jeudy and the reefs and shoals extending S from Egmont Point, about 0.75 mile NW. It consists of an inner and outer harbor, connected by narrows less than 91m wide, with a depth of 5.5m in them.

Small vessels can find secure anchorage off the W side of Adam Islet. The detached rocky head, about 137m W of Adam Islet, should be avoided.

Clarks Court Bay (12°01'N., 61°44'W.) is entered between the reefs and shoals extending S from Caliviny and Hog Islets to the W of Point of Fort Jeudy. The bay provides anchorage in depths of 10 to 14.6m, good holding ground.

Small vessels with local knowledge can obtain good anchorage off the W side of Hog Islet. The channel leading to this anchorage is narrow and should only be attempted during daylight and in good weather.

Mount Hartman Bay (12°00'N., 61°45'W.) lies about 1 mile SW of Clarks Court Bay. Safe anchorage is afforded to small vessels with local knowledge in depths of 7.3 to 11m.

Prickly Bay (12°00'N., 61°46'W.) is entered between Prickly Point and a point about 0.5 mile NW. There is anchorage, in depths of 11 to 14.6m, S of 2.7m shoal lying about 0.75 mile N of Prickly Point.

True Blue Bay (12°00'N., 61°46'W.) and Hardy Bay, W of Prickly Bay, provide anchorage for small vessels drawing up to 4.6m.

9.43 Point Saline (12°00'N., 61°48'W.) lies about 1 mile W of the W entrance point of Hardy Bay and forms the SW extremity of Grenada. Seringapatam Shoal, with a least depth of 6.4m, lies about 0.3 mile SW of the point.

There is always a confused sea in this area. It is recommended that vessels pass W of Seringapatam Shoal.

Good anchorage can be taken in depths of 9.1 to 11m about 1.75 miles NE of Point Saline. A light for the use of aircraft is exhibited, at an elevation of 71m, from a radio mast close N of the airfield runway.

Lights are exhibited, each at an elevation of 7m, from Point Saline and from Grover Island, 1.25 miles SE.

Long Point (12°02'N., 61°47'W.), about 2 miles NE of Point Saline, is the outer extremity of a narrow projection.

A shoal, with a least depth of 0.6m, lies about 0.3 mile W of Long Point. A deep, narrow passage lies between this shoal and the point, but it is advisable to pass W of the shoal.

Grand Anse (12°02'N., 61°46'W.) lies between Long Point and the entrance to Saint George's Harbour, about 1.75 miles NE. The bay provides sheltered anchorage in depths of 16.5 to 23.8m.

Fort George Point (12°03'N., 61°45'W.), a bluff headland, is the N entrance point of Saint George's Harbour. Fort George (Fort Rupert), with a signal station, stands on the point. A

black church, with a tower at its N end, stands about 0.25 mile NE of the point and a white building with a red roof stands about 0.3 mile of the point, both landmarks are conspicuous.

Saint George's Harbour is entered between Fort George Point and a point 0.25 mile SE which is fronted by a small rock on which is a statue with a prominent white base.

Saint George's (12'03'N., 61'45'W.)

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9.44 Saint George's is the capital of Grenada and its most important harbor. The inner part of the harbor consists of two basins. Both of these basins are entered through a common entrance. The N basin is available as an anchorage.

Tides—Currents.—Currents are generally weak and variable to the W of the breakwater; however, an unpredictable N or S set up to 2.5 knots can be experienced immediately to the W of the breakwater head.

Swell is particularly noticeable in November and is at a minimum during summer.

Depths—Limitations.—The Carenage contains three main berths, of which the largest is the Deep Water Berth (on the E side), with a length of 244m and a depth alongside of 9m. It is recommended that vessels dock during daylight hours. Departures can be made at anytime.

The shallow basin NE of the main wharf has been dredged to a depth of 5.5m and the land on the E side of the basin reclaimed. A 79m long berth is along its W face.

An offshore tanker berth is reported to exist about 0.5 mile N of Fort George, and is also reported to have a minimum depth of 7.9m. Caution is advised, as information on this terminal is scanty at present.

Aspect.—The harbor is protected NW by the promontory on which **Fort George** (12°03'N., 61°45'W.) stands. The harbor may be identified by Fort George; by Fort Frederick, which stands at an elevation of 226m, on Richmond Hill; and by a statue with a white base, standing on a small rock off the harbor's SE entrance point.

The N basin, or The Carenage, has depths of 9.1 to 20.1m. The S basin, or The Lagoon, has depths of 4.8 to 8.2m. It is entered through a short channel, with a reported (1993) depth of 2.6m, which leads SE from The Carenage. There is a yacht marina on the W side of The Lagoon.

Two pairs of range lights are exhibited at Saint George's Harbour. The outer pair, for the approach from seaward, stands on the shores of Martin's Bay on the S side of the entrance.

The front light is situated about 0.5 mile S of Fort George Light. The rear light stands 91m SE of the front light. In line, bearing 132°, they lead between the dangers E of Anne's Shoal and those extending from Fort George Point.

The inner pair is situated on the slopes at the head of the harbor. The front light stands 0.5 mile E of Fort George Light. The rear light stands 0.25 mile ENE of the front light. In line, bearing 068.5, * they lead into the harbor.

Three Fathom Banks, with a least depth of 5.2m, lies about 0.5 mile WSW of Fort George Point; on the same bank lies Annas Shoal, with a depth of 5.5m.

Pilotage.—Pilotage is compulsory for vessels of more than 200 grt and is available 0500-2300; pilotage should be requested 3 hours in advance. The pilot boards, as follows:

- 1. Vessels proceeding alongside—0.5 mile N of Annas Shoal.
- 2. Vessels anchoring—1 mile W of the point at Fort George.

Port control, call sign "J3YA," and the pilots, call sign "J3YB," may be contacted on VHF channel 16.

Anchorage.—The banks of Saint George's Harbour afford good anchorage. The anchorage is situated at 12°02'N, 61°46'W.

In order to keep the outer approaches clear, vessels should not anchor on or near the 132° range line within 0.3 mile of the outer lighted buoy.

Small vessels can anchor closer inshore about 0.2 mile WNW of the Fort George flagstaff. Shoaling has been reported in the vicinity of this anchorage.

There is good anchorage, in 14.6 to 18.3m, 0.5 mile NW of Fort George.

There is good anchorage for vessels of moderate draft, in a depth of 20.1m in Grand Anse, with the Fort George flagstaff bearing about 030°, distant about 1 mile.

Vessels of moderate length can anchor in 20.1m abreast Fort George in The Carenage.

9.45 Grand Mal Bay (12°04'N., 61°45'W.) lies about 1.5 miles N of Fort George Point.

A submerged fuel pipeline extends from the shore at the head of the bay and is marked by buoys at its outer end. Caution is advised, as information on this terminal is scanty at present. Shoaling has also been reported in the vicinity.

Good anchorage can be taken on either side of a deep area in the central part of the bay.

Halifax Harbour (12°07'N., 61°45'W.), an open roadstead, lies about 2.25 miles N of Grand Mal Bay. Anchorage can be taken as charted in depths of 9.1 to 12.8m.

Gouyave Bay lies about 3.5 miles NNE of Halifax Harbour. A village stands at the head of the bay. Anchorage can be taken in depths of 12.8m about 0.2 mile SW of the village.

Saint Marks Bay (12°12'N., 61°42'W.) lies about 2.25 miles NE of the village on Gouyave Bay. Vessels may anchor in depths of 18.3 to 20.1m about 0.2 mile offshore. The bay is exposed to N winds.

Crayfish Bay and Du Quesne Bay, with Du Quesne Point between them, are entered about 1.25 miles and 2 miles NE of Saint Marks Bay.

Both bays provide anchorage to small vessels. Vessels anchor in depths 11 to 12.8m about 0.3 mile offshore on the shorebank between Du Quesne Point and David Point, the N extremity of Grenada.

Barbados

9.46 Barbados (13°10'N., 59″32'W.), the easternmost of the Windward Islands, stands about 80 miles ESE of the S extremity of Saint Lucia. A deep valley traverses the S part of the island E to W dividing it into two parts.

All of the dangers which lie in the vicinity of the island are contained within or adjacent to the 20m curve, which lies between 0.25 mile and 1.5 miles offshore. There are no offlying dangers.

A conspicuous lighted radio mast stands on Mount Misery. A TV mast, also lighted, stands about 1 mile ESE of Mount Misery.

The ocean current in the vicinity of the island generally sets to the W, but may vary between NW and N, as its velocity and direction is influenced by the wind.

North Point (13°20'N., 59°37'W.), the N extremity of the island, is a cliffy headland backed by level ground which extends about 1 mile S and then begins to rise again.

The coast between North Point and Pico Teneriffe, about 3.5 miles SE, consists of cliffs which are bordered by a shoal bank extending up to 0.25 mile offshore.

From Pico Teneriffe the coast extends about 12.5 miles SE to Kitridge Point, the E extremity of the island. A coral reef, on which the sea breaks, extends from 0.25 to 0.5 mile offshore.

The coast between Kitridge Point and the S extremity of the island, about 9 miles to the SW, is fringed by coral reef broken by several passes. A boat passage lies between this reef and the shore reef.

9.47 Cobblers Reef (13°07'N., 59°26'W.), which breaks even in the finest weather, is the NE part of this barrier reef and has two passages through it. In the vicinity of Kitridge Point, the outer edge of the reef lies 0.5 mile offshore, extending up to 1 mile offshore off Palmetto Bay, 0.7 mile farther S. The prevailing current sets toward Cobblers Reef.

Conset Bay, about 9 miles SE of **Pico Tenerriffe** (13°17'N., 59°35'W.), a prominent hill, affords shelters to boats. It should not be attempted without local knowledge.



Kitridge Point Light

A conspicuous dish aerial stands approximately 2 miles WNW of **Conset Point** (13°11'N., 59°28'W.).

The E end of the island is about 30.5m high, and continues flat for about 2 miles inland, when it begins to rise.

A light is exhibited, at an elevation of 64.9m, from a round stone tower, 29.6m in height, situated on Ragged Point, about 1.25 miles NW of Kitridge Point.

The Shallows (12°59'N., 59°28'W.), a bank about 6 miles in extent with a least depth of 60.4m, lies about 5 miles SE of the S extremity of Barbados. Easterly sets with a heavy W swell can set up turbulent seas over this bank.

9.48 South Point (13°03'N., 59°32'W.), the S extremity of the island, consists of bold rocky cliffs. The barrier reef terminates about 0.75 mile SW of the point. A light is shown on the point. Storm signals are shown from the light structure.

A lighted aero tower stands about 3 miles NE of South Point Light. The light on the tower is shown when aircraft are about to land.

Oistins Bay (13°03'N., 59°33'W.), which shows a light, lies close NW of South Point. The bay affords anchorage to small vessels in depths of 9.1 to 18.3m. The reefs off South Point should be given a wide berth when nearing this anchorage.

Trader Bank (13°03'N., 59°39'W.), about 0.75 mile in extent, and with a least depth of 36.6m, lies with its shallowest part about 2.5 miles SW of Needhams Point. Two large hotels, one with prominent arches on its top, stand on Needhams Point.

A dangerous wreck lies about 0.5 mile SE of Needhams Point.

Bridgetown (13'05'N., 59'37'W.)

World Port Index No. 11690

9.49 The port is situated on reclaimed land on the NW side of the town, at the N entrance point of Carlisle Bay.

The port has modern alongside berthing facilities for all classes of vessels. Vessels are advised to enter or leave the harbor during early morning or the evening to avoid the fresh E which usually blows from 1 hour before sunrise to 1 hour before sunset.

Tides—Currents.—Currents are generally weak and variable to the W of the breakwater; however, an unpredictable N or S set of up to 2.5 knots can be experienced immediately to the W of the breakwater head.

Swell is particularly noticeable in November and is at a minimum during summer.

Aspect.—The three sugar loading towers on the SE part of the breakwater and the bulk sugar storehouse SE of the harbor are conspicuous. Other useful navigational aids are the two most conspicuous silver aluminium chimneys located at the power station in position 13°05'N, 59°37'W.

A number of other good landmarks can best be seen on the area chart.

Depths—Limitations.—Several commercial berths are on the W side of Barbados.

Deep Water Harbour (13°06'N., 59°38'W.) contains the main berthing complexes. Vessels up to 243m in length, or 292m long if fitted with bow thrusters, a beam of 31m, and a maximum draft of 9.6m may be accommodated.

A bulk grain berth is situated on the NE side of the entrance. The berth, the approaches to it, and a turning basin off the berth were dredged to a depth of 11.6m.

Berth 1 has a length of 152m, Berths 2 and 3 have a combined length of 366m, and Berth 4 has a length of 215m when mooring dolphins are used.

The outer arm of the breakwater offers a length of 522m to passenger vessels, while the inner arm offers a length of 307m to vessels loading bulk sugar.

A shallow basin E of the harbor basin was dredged to a depth of 6.1m and offers berthing to inter-island vessels.

The Carenage is the old harbor works within the city of Bridgetown. A coral bank and several shoal heads lie within the N portion of Carlisle Bay, which may be avoided by keeping the Holiday Inn bearing less than 133°. Local knowledge is highly recommended. The basin is available for vessels with a draft of less than 3m.

Arawak Jetty, a T-head pier projecting from the coast abreast a cement works, is situated about 1.5 miles SSE of Harrison Point Light. The jetty has a depth of 9.1m alongside and can handle a vessel less than 183m long.

A pier within Deep Water Harbour will accept a vessel with a length of 240m.

The Esso Pier, situated just SSE of Deep Water Harbour, is a T-head facility with a depth of 16.7m alongside. The terminal will accept a vessel with a length of 244m and a draft of 11.6m.

Needham's Point, located about 0.75 mile SSE of Deep Water Harbour is an offshore, multi-point mooring. The berth will accept vessels up to 198m in length, with a draft of 11.6m.

An offshore berth at Oistin Bay will accept vessels up to 172m in length, with a draft of 10m.

An offshore berth for LPG vessels is situated in Spring Garden Anchorage and can accommodate a vessel up to 103m long, with a maximum draft of 4.9m.

Kettle Bottom Shoal (13°07'N., 59°38'W.) which dries in places, lies at the N end of Spring Garden Anchorage. Pelican Shoals, which dry in patches, lie on the coastal bank S of Spring Garden Anchorage. Both shoals can be marked by significant breakers and dry during July and August.

Long Shoal, a detached bank with a least depth of 6.9m, lies 0.75 mile WSW of Spring Garden.

Pilotage.—Pilotage is compulsory and is available 24 hours. Ships may enter during daylight only but may depart at night. The pilot boards, on the port side of the vessel, 0.8 mile WNW of the Breakwater Head Light.

Vessels should send their ETA and request for pilotage as early in the voyage as possible. Requests for pilotage on Saturday should be presented before 1100 on Thursday, while Sunday pilotage should be requested before 1400 on Friday.

Tugs are available to assist with turning and berthing.

Regulations.—Arriving yachts contact the signal station, and request permission to enter the commercial harbor, to clear customs.

Signals.—The port signal station is situated on the breakwater fronting the harbor. The station, call sign "8PB," may be contacted on VHF channel 12 and 16.

The following signals are displayed from a flagstaff on the signal station on the elbow of the breakwater:

- 1. Port open and clear for inbound traffic:
- a. By day—International Code Flag "E" over a black cone, point up.
 - b. By night—Three white lights, disposed vertically.
- 2. Port closed and clear for outbound traffic:
- a. By day—International Code Flag "D" over a black ball.
 - By night—Three red lights, disposed vertically.

Anchorage.—The best berth for vessel of moderate size is in a depth of about 29.3m with the Savannah Club clock tower bearing 123°. Anchorage can also be taken with the Hilton Hotel bearing about 129°, distant 1 mile.

Anchorage is prohibited in the near approach to Bridgetown Harbour. The explosives and quarantine anchorage may best be seen on the area chart.

The coast between Bridgetown and Harrison Point, about 12.5 miles N, is slightly indented by sandy beaches, which are separated by reef fringed points.

Caution.—A dangerous reef lying up to 0.5 mile offshore extends about 1.5 miles S from Harrison Point.

9.50 The coast between Harrison Point and North Point consists of low rugged cliffs. Harrison Reefs, which extend up to 0.4 mile offshore, border this section of the coast.

A cement works, dominated by a prominent tower, stands near the coast 1.5 miles S of Harrison Point Light. The tower, which is floodlit at night, is readily identifiable by vessels approaching Barbados from N or W. Arawak Jetty, the berth situated off the cement works, was described previously described with Bridgetown.

Holetown (13°11'N., 59°38'W.), a small village about 5.5 miles NNW of Bridgetown, provides anchorage in the roadstead. A wreck, with a depth of 5.5m lies about 0.25 mile offshore, 2.5 miles S of Holetown.

Speightstown (13°15'N., 59°39'W.) (World Port Index No. 11680) lies about 3.75 miles N of Holetown. Anchorage can be taken in the roadstead in depths of 14.6 to 36.6m.